PATENT
APPLICATION NO. 10/082,760

CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

1.   (Original) For a factory process comprising a plurality of tasks, a method to permit monitoring of the process, the method comprising:
displaying the factory process in real-time as a three-dimensional, free-camera, computer generated representation of the process as a whole; and
selectively displaying each of the tasks in real-time as a three-dimensional, free-camera, computer generated representation of the respective task.

2.   (Original) The method of claim 1 including selectively displaying data representative of a status of the displayed process.

3.   (Original) The method of claim 1 including selectively displaying data representative of a status of one of the displayed tasks.

4.   (Original) The method of claim 1 including selectively displaying data representative of a status a plurality of the displayed tasks.

5.   (Original) The method of claim 1 wherein the process has a controllable parameter and the method includes controlling the parameter of the factory process.

6.   (Original) The method of claim 1 wherein one of the tasks has a controllable parameter and the method includes controlling the controllable parameter of the task.

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7.   (Original) The method of claim 1 wherein a plurality of the tasks have a controllable parameter and the method includes selectively controlling the controllable parameter of each of the tasks.

8.   (Original) The method of claim 1 wherein one of the tasks has a sub-task and the method includes selectively displaying the sub-task in real-time as a three-dimensional, free-camera, computer generated representation of the respective task.

9.   (Original) The method of claim 8 wherein the sub-task has a controllable parameter and the method includes controlling the controllable parameter of the sub-task.

10.   (Original) The method of claim 1 wherein a plurality of the tasks has a respective plurality of sub-tasks and the method includes selectively displaying the sub-tasks in real-time as a three-dimensional, free-camera, computer generated representation of the respective sub-tasks.

11.   (Original) The method of claim 10 wherein each of the sub-tasks has a controllable parameter and the method includes controlling the controllable parameter of the sub-tasks.

12.   (Currently Amended) ~~The method of claim 1 including:~~ For a factory process comprising a plurality of tasks, a method to permit monitoring of the process, the method comprising:

displaying the factory process in real-time as a three-dimensional, free-camera, computer generated representation of the process as a whole;

selectively displaying each of the tasks in real-time as a three-dimensional, free-camera, computer generated representation of the respective task;

sensing a status of one of the tasks;

determining if the sensed status is acceptable; and

automatically displaying the task if the sensed status is not acceptable.

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13.   (Currently Amended) ~~The method of claim 1 including:~~ For a factory process comprising a plurality of tasks, a method to permit monitoring of the process, the method comprising:
displaying the factory process in real-time as a three-dimensional, free-camera, computer generated representation of the process as a whole;
selectively displaying each of the tasks in real-time as a three-dimensional, free-camera, computer generated representation of the respective task;
sensing a status of a plurality of the tasks; and
determining if the sensed status of each of the plurality of tasks is acceptable; and automatically displaying one of the plurality of tasks if the sensed status of the one of the plurality of tasks is determined not to be acceptable.

14.   (Original) For a factory process comprising a plurality of tasks, a method to permit monitoring of the process, the method comprising:
displaying the factory process in real-time as a three-dimensional, free-camera, computer generated representation of the process as a whole;
selecting one of the tasks; and
displaying data representative of a status of the selected one of the displayed tasks.

15.   (Original) The method of claim 14 including displaying data representative of a status of a plurality of the displayed tasks.

16.   (Original) The method of claim 14 wherein the process has a controllable parameter and the method includes controlling the parameter of the factory process.

17.   (Original) The method of claim 14 wherein the one of the displayed tasks has a controllable parameter and the method includes controlling the controllable parameter of the task.

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18.   (Original) The method of claim 14 wherein the plurality of tasks has a
       controllable parameter and the method includes controlling the controllable
       parameter of each of the tasks.

19.   (Original) The method of claim 14 wherein one of the tasks has a sub-task and the
       method includes selectively displaying the sub-task in real-time as a three-
       dimensional, free-camera, computer generated representation of the respective
       task.

20.   (Original) The method of claim 19 wherein the sub-task has a controllable
       parameter and the method includes controlling the controllable parameter of the
       sub-task.

21.   (Original) The method of claim 14 wherein a plurality of the tasks has a respective
       plurality of sub-tasks and the method includes selectively displaying the sub-tasks
       in real-time as a three-dimensional, free-camera, computer generated
       representation of the respective sub-tasks.

22.   (Original) The method of claim 21 wherein each of the sub-tasks has a
       controllable parameter and the method includes controlling the controllable
       parameter of the sub-tasks.

23.   (Original) For a factory process comprising a plurality of tasks, a computer
       readable medium containing program instructions for execution by a processor to
       cause the processor to perform steps to permit monitoring of the process on a
       video display, the method comprising:
       displaying the factory process in real-time as a three-dimensional, free-camera,
computer generated representation of the process as a whole; and
       selectively displaying each of the tasks in real-time as a three-dimensional, free-
camera, computer generated representation of the respective task.

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24.   (Original) The method of claim 23 including selectively displaying data
       representative of a status of the displayed process.

25.   (Original) The method of claim 23 including selectively displaying data
       representative of a status of one of the displayed tasks.

26.   (Original) The method of claim 23 including selectively displaying data
       representative of a status a plurality of the displayed tasks.

27.   (Original) The method of claim 23 wherein the process has a controllable
       parameter and the method includes controlling the parameter of the factory
       process.

28.   (Original) The method of claim 23 wherein one of the tasks has a controllable
       parameter and the method includes controlling the controllable parameter of the
       task.

29.   (Original) The method of claim 23 wherein a plurality of the tasks have a
       controllable parameter and the method includes selectively controlling the
       controllable parameter of each of the tasks.

30.   (Original) The method of claim 23 wherein one of the tasks has a sub-task and the
       method includes selectively displaying the sub-task in real-time as a three-
       dimensional, free-camera, computer generated representation of the respective
       task.

31.   (Original) The method of claim 30 wherein the sub-task has a controllable
       parameter and the method includes controlling the controllable parameter of the
       sub-task.

32.   (Original) The method of claim 23 wherein a plurality of the tasks has a respective
       plurality of sub-tasks and the method includes selectively displaying the sub-tasks

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in real-time as a three-dimensional, free-camera, computer generated
representation of the respective sub-tasks.

33.   (Original) The method of claim 32 wherein each of the sub-tasks has a
controllable parameter and the method includes controlling the controllable
parameter of the sub-tasks.

<u>34.</u>   (Currently Amended) ~~The method of claim 23 including:~~ <u>For a factory process
comprising a plurality of tasks, a computer readable medium containing program
instructions for execution by a processor to cause the processor to perform steps
to permit monitoring of the process on a video display, the method comprising:
displaying the factory process in real-time as a three-dimensional, free-camera,
computer generated representation of the process as a whole;
selectively displaying each of the tasks in real-time as a three-dimensional, free-
camera, computer generated representation of the respective task;</u>
sensing a status of one of the tasks;
determining if the sensed status is acceptable; and
automatically displaying the task if the sensed status is not acceptable.

<u>35.</u>   (Currently Amended) ~~The method of claim 23 including:~~ <u>For a factory process
comprising a plurality of tasks, a computer readable medium containing program
instructions for execution by a processor to cause the processor to perform steps
to permit monitoring of the process on a video display, the method comprising:
displaying the factory process in real-time as a three-dimensional, free-camera,
computer generated representation of the process as a whole;
selectively displaying each of the tasks in real-time as a three-dimensional, free-
camera, computer generated representation of the respective task;</u>
sensing a status of a plurality of the tasks; and
determining if the sensed status of each of the plurality of tasks is acceptable; and
automatically displaying one of the plurality of tasks if the sensed status of the
one is determined not to be acceptable.

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36.   (Original) A system for monitoring a factory process, the factory process
comprising a plurality of tasks, a system comprising:
means for displaying the factory process in real-time as a three-dimensional, free-
camera, computer generated representation of the process as a whole; and
means for selectively displaying each of the tasks in real-time as a three-
dimensional, free-camera, computer generated representation of the respective task.

37.   (Original) The system of claim 36 including means for selectively displaying data
representative of a status of the displayed process.

38.   (Original) The system of claim 36 including means for selectively displaying data
representative of a status of one of the displayed tasks.

39.   (Original) The system of claim 36 including means for selectively displaying data
representative of a status a plurality of the displayed tasks.

40.   (Original) The system of claim 36 wherein the process has a controllable
parameter and the system includes means for controlling the parameter of the
factory process.

41.   (Original) The system of claim 36 wherein one of the tasks has a controllable
parameter and the system includes means for controlling the controllable
parameter of the task.

42.   (Original) The system of claim 36 wherein a plurality of the tasks have a
controllable parameter and the system includes means for selectively controlling
the controllable parameter of each of the tasks.

43.   (Original) The system of claim 36 wherein one of the tasks has a sub-task and the
system includes means for selectively displaying the sub-task in real-time as a
three-dimensional, free-camera, computer generated representation of the
respective task.

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44.   (Original) The system of claim 43 wherein the sub-task has a controllable
parameter and the system includes means for controlling the controllable
parameter of the sub-task.

45.   (Original) The system of claim 36 wherein a plurality of the tasks has a respective
plurality of sub-tasks and the system includes means for selectively displaying the
sub-tasks in real-time as a three-dimensional, free-camera, computer generated
representation of the respective sub-tasks.

46.   (Original) The system of claim 45 wherein each of the sub-tasks has a controllable
parameter and the system includes means for controlling the controllable
parameter of the sub-tasks.

47.   (Currently Amended) ~~The system of claim 36 including:~~ A system for monitoring
a factory process, the factory process comprising a plurality of tasks, a system
comprising:
means for displaying the factory process in real-time as a three-dimensional, free-
camera, computer generated representation of the process as a whole;
means for selectively displaying each of the tasks in real-time as a three-
dimensional, free-camera, computer generated representation of the respective
task;
means for sensing a status of one of the tasks;
means for determining if the sensed status is acceptable; and
means for automatically displaying the task if the sensed status is not acceptable.

48.   (Currently Amended) ~~The system of claim 36 including:~~ A system for monitoring
a factory process, the factory process comprising a plurality of tasks, a system
comprising:
means for displaying the factory process in real-time as a three-dimensional, free-
camera, computer generated representation of the process as a whole;

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means for selectively displaying each of the tasks in real-time as a three-dimensional, free-camera, computer generated representation of the respective task;

means for sensing a status of a plurality of the tasks; ~~and~~

means for determining if the sensed status of each of the plurality of tasks is acceptable; and

means for automatically displaying one of the plurality of tasks if the sensed status of the one is determined not to be acceptable.

49.   (Original) For a factory process comprising a plurality of tasks, wherein both the factory process and the tasks include controllable parameters, a method to permit monitoring and control of the process, the method comprising:

displaying the factory process in real-time as a three-dimensional, free-camera, computer generated representation of the process as a whole;

selectively displaying data representative of a status of the displayed process;

selectively controlling the factory process parameter;

selectively displaying each of the tasks in real-time as a three-dimensional, free-camera, computer generated representation of the respective task;

selectively displaying data representative of a status a plurality of the displayed tasks; and

selectively controlling the controllable parameter of each of the tasks

50.   (Original) The method of claim 49 wherein one of the tasks has a sub-task and the method includes selectively displaying the sub-task in real-time as a three-dimensional, free-camera, computer generated representation of the respective task.

51.   (Original) The method of claim 50 wherein the sub-task has a controllable parameter and the method includes controlling the controllable parameter of the sub-task.

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52.   (Original) The method of claim 50 wherein a plurality of the tasks has a respective
        plurality of sub-tasks and the method includes selectively displaying the sub-tasks
        in real-time as a three-dimensional, free-camera, computer generated
        representation of the respective sub-tasks.

53.   (Original) The method of claim 52 wherein each of the sub-tasks has a
        controllable parameter and the method includes controlling the controllable
        parameter of the sub-tasks.

54.   (Currently Amended) ~~The method of claim 50 including~~: For a factory process
        comprising a plurality of tasks, wherein both the factory process and the tasks
        include controllable parameters, a method to permit monitoring and control of the
        process, the method comprising:
        displaying the factory process in real-time as a three-dimensional, free-camera,
        computer generated representation of the process as a whole;
        selectively displaying data representative of a status of the displayed process;
        selectively controlling the factory process parameter;
        selectively displaying each of the tasks in real-time as a three-dimensional, free-
        camera, computer generated representation of the respective task;
        selectively displaying data representative of a status a plurality of the displayed
        tasks;
        selectively controlling the controllable parameter of each of the tasks;
        sensing a status of one of the tasks;
        determining if the sensed status is acceptable; and
        automatically displaying the task if the sensed status is not acceptable.

55.   (Currently Amended) ~~The method of claim 50 including~~: For a factory process
        comprising a plurality of tasks, wherein both the factory process and the tasks
        include controllable parameters, a method to permit monitoring and control of the
        process, the method comprising:
        displaying the factory process in real-time as a three-dimensional, free-camera,
        computer generated representation of the process as a whole;

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selectively displaying data representative of a status of the displayed process;

selectively controlling the factory process parameter;

selectively displaying each of the tasks in real-time as a three-dimensional, free-
camera, computer generated representation of the respective task;

selectively displaying data representative of a status a plurality of the displayed

tasks;

selectively controlling the controllable parameter of each of the tasks;

sensing a status of a plurality of the tasks; and

determining if the sensed status of each of the plurality of tasks is acceptable; and

automatically displaying one of the plurality of tasks if the sensed status of the

one is determined not to be acceptable.